CLAIMS

1. A mounting for a semiconductor assembly including a first portion for mounting a semiconductor assembly, a second portion and a connecting portion joining the first and second portions and arranged to allow folding of the second portion over the first portion to form a cover.

2. A mounting according to claim 1 wherein the connecting portion provides thermal and electrical communication between the first and second portions of the mounting.

3. A mounting according to claim 1 or claim 2 wherein the first portion of the mounting comprises a formation of electrical connectors.

4. A mounting according to any one of the preceding claims wherein the second portion is arranged to be in a spaced parallel relationship with the first portion.

5. A mounting according to any one of the preceding claims wherein the second portion further comprises at least one additional edge portion arranged to extend when the mounting is folded beyond at least one edge of the first portion of the mounting.

6. A mounting according to claim 5 wherein the mounting is in the form of an EMI enhanced package wherein the second portion is provided with four additional edge portions to define four walls to protect the semiconductor assembly.

7. A mounting according to any one of the preceding claims wherein the mounting is formed from a single sheet of electrically and thermally conducting material which is preferably copper.

8. A mounting according to any one of the preceding claims wherein the connecting portion is provided with folding means to enable the folding of the second portion over the first portion; the folding means is preferably at least one weakened line, such as a scored line or an etched line in the mounting having a thickness that is less than that of the rest of the mounting; more preferably the folding means includes two weakened lines, one between the first portion and the connecting portion and one between the second portion and the connecting portion.

9. A mounting according to any one of the preceding claims wherein the mounting is provided with a third portion and second folding portion arranged to allow folding of the third portion over the second portion to form a cover, preferably such that the third portion is in a spaced parallel relationship with the first portion and second portion.

10. A mounting according to any one of the preceding claims wherein the mounting further comprises a means for mounting surface mount technology (SMT) component which is preferably a passive component, for example a resistor, capacitor, and/or inductor.

11. A mounting according to claim 10 wherein the SMT mounting means comprises one or more recesses in the second portion.

12. A mounting according to any one of the preceding claims wherein the cover is patterned or formed to function as a passive component which is preferably a serpentine inductor, an interdigitated and/or parallel plate capacitor, a microstrip coupler and/or a filter.

13. A mounting according to any one of the preceding claims wherein the mounting. further comprises means adapted for mounting a sensor

semiconductor assembly, preferably the sensor mounting means is adapted for mounting an image sensor semiconductor assembly, biometric sensor semiconductor assembly and/or pressure sensor semiconductor assembly.

14. A mounting according to any one of the preceding claims wherein the cover is adapted to provide direct access to the semiconductor assembly, preferably such direct access means comprises an aperture in the cover.

15. A mounting according to claim 14 wherein the mounting is further adapted to mount an optical component in relationship to an image sensor semiconductor chip.

16. A mounting according to claim 14 wherein the direct access means is further defined by having one or more recesses about its perimeter, which recesses preferably face towards, or away from, a mounted semiconductor assembly.

17. A mounting according to any one of claims 14 to 16 wherein the direct access means and/or the recesses can be used to locate a further component for use in the semiconductor assembly.

18. A mounting according to any one of the preceding claims wherein the mounting further comprises one or more recesses formed within the cover into which mould material can flow to secure the cover.

19. A mounting according to any one of the preceding claims which further comprises a means to permit coupling of selected frequencies of electromagnetic radiation through the mounting, preferably the frequency coupling means comprises one or more apertures in the cover of appropriate dimension to permit coupling at a selected frequency.

20. A mounting according to any one of the preceding claims wherein the formation of electrical connectors is in a spaced relationship with the base support and are linked electrically with the semiconductor assembly.

21. A mounting according to any one of the preceding claims which comprises a sealing material at least partially encapsulating the mounting and the semiconductor assembly.

22. A mounting according to claim 21 wherein at least part of the printed circuit board facing surfaces of the electrical connectors and first portion or the heat radiating surface of the cover is not covered by the sealing material, being left exposed to aid the dissipation of heat.

23. A mounting according to any one of the preceding claims wherein the mounting further comprises a heat dissipation means to provide a low thermally resistive path between a mounted semiconductor assembly and the cover of the package.

24. A mounting according to any one of claims 1 to 19 wherein the mounting is part of an array of a plurality of mountings.

25. A method of manufacturing a semiconductor assembly comprising the steps of:

preparing a mounting for a semiconductor assembly;

mounting a semiconductor assembly on a first portion of the mounting;

electrically connecting the semiconductor chip to the mounting; and

folding a second portion of the mounting over the semiconductor assembly.

26. A method according to claim 25 which further comprises the step of forming a functional feature in the mounting, preferably by cutting, scribing, stamping or etching.

27. A method according to claim 26 wherein the step of forming a functional feature includes forming a heatsink, an aperture in a portion of the mounting, an aperture having one or more recesses defined about its perimeter wherein the recesses face towards, or away from, a mounted semiconductor assembly, and/or forming a passive component in a portion of the mounting.

28. A method according to any one of claims 25 to 27 wherein the step of preparing a mounting comprises forming a fold line in the mounting.

29. A method according to any one of claims 25 to 28 wherein the folding step comprises folding the second portion through a total of 180°.

30. A method according to claim 29 wherein the second portion has two fold lines and wherein the folding step comprises folding the second portion through 90° along each of two fold lines.

31. A method according to any one of claims 25 to 30 wherein the folding step comprises folding the second portion to be in a spaced parallel relationship with the first portion.

32. A method according to any one of claims 25 to 31 which further comprises the step of folding a third portion of the mounting over the semiconductor assembly.

33. A method according to any one of claims 25 to 32 which further comprises the step of folding an additional portion of the mounting to form a sidewall in the mounting.

34. A method according to any one of claims 25 to 33 which further comprises the step of sealing said mounting, preferably with a dielectric sealant.

35. A method according to any one of claims 25 to 34 which further comprises the step of mounting and aligning an auxiliary component for use in the semiconductor assembly, preferably the auxiliary component is an optical component, such as a lens or a filter.

36. A method according to claim 35 wherein the step of mounting and aligning the auxiliary component is carried out before the folding step(s) such that folding the mounting brings the auxiliary component into a desired final position in the mounting.

37. A method according to any one of claims 25 to 36 wherein the mounting is one of an array of such mountings and the step of preparing the mounting comprises separating the mounting from the array by cutting, punching or sawing.

38. A method of manufacturing a semiconductor mounting which method comprises the step of

patterning mountings on a sheet of conducting material, which is preferably formed from copper, to form an array of mountings,

wherein each mounting is defined by a first portion for mounting at least one semiconductor device, a second portion and a connecting portion joining the first and second portions and arranged to allow folding of the second portion over the first portion.

39. A method according to claim 38 wherein the patterning step comprises casting, etching or stamping.

40. A method according to claim 38 or claim 39 which further includes a step of separating individual mountings from the array.